

What is claimed is:

1. A steam generator comprising:

a liquid tank portion for storing a liquid;

an evaporator portion which is directly connected to the above-mentioned liquid tank portion, heats the liquid supplied from said liquid tank portion, and generates steam;

a steam storage portion which is directly connected to said evaporator portion, and stores the steam generated by said evaporator portion;

a passageway which is directly connected to said steam storage portion and outwardly passes the steam generated by said evaporator portion;

a liquid pathway which is connected to said liquid tank portion, and supplies the liquid to said liquid tank portion; and

a heater unit which is provided at one side of said evaporator portion and at least heats the evaporator portion, wherein said liquid tank portion, the evaporator portion, the steam storage portion, the passageway, and the liquid pathway are formed within an integral member of a translucent material.

2. The steam generator as claimed in claim 1, wherein said integral member of said translucent material is any one of a transparent silica glass body, a transparent borosilicate glass body, and a transparent soda glass body.

3. The steam generator as claimed in claim 2, wherein a transverse sectional area of said evaporator portion is smaller than that of the liquid tank portion, and formed such that the transverse sectional area may gradually spread or expand from the liquid tank portion side towards the steam storage portion side.
4. The steam generator as claimed in claim 3, wherein a porous body is provided at said evaporator portion and in the liquid tank portion.
5. The steam generator as claimed in claim 4, wherein a vertical section of said passageway is formed into a trapezoid or a trapezium where the section spreads or extends gradually outwards, and a diffusion plate is provided within said passageway.
6. The steam generator as claimed in any one of claims 1 to 5, wherein said heater unit is a heater in which a carbon wire heater body is enclosed in a glass plate.
7. The steam generator as claimed in claim 6, wherein said heater unit welds together a first glass plate in which a slot for accommodating the carbon wire heater body is formed and a second glass plate for covering said slot, to thereby enclose the carbon wire heater body in the glass plate.
8. The steam generator as claimed in claim 2, wherein said liquid tank portion, the evaporator portion, the steam storage portion, and the passageway are formed as a recess at said glass body, the opening side of said recess is covered by the heater unit in which the carbon wire heater body is enclosed in a glass plate, and the glass plate of said heater unit is welded to the side of said glass body so as to integrate said glass body with the heater unit, whereby the liquid tank portion, the evaporator portion, the steam storage portion, and the passageway are formed.

9. The steam generator as claimed in claim 6, wherein the glass body at which at least said liquid tank portion, the evaporator portion, the steam storage portion, and the passageway are formed and the heater unit provided on the side of said glass body are surrounded by a thermal insulation material and accommodated in a metal casing.

10. A mixer using a steam generator comprising:

a liquid tank portion for storing a liquid;

an evaporator portion which is directly connected to said liquid tank portion, heats the liquid supplied from said liquid tank portion, and generates steam;

a steam storage portion which is directly connected to said evaporator portion, and stores the steam generated by said evaporator portion; and

a liquid pathway which is connected to said liquid tank portion, and supplies the liquid to said liquid tank portion, wherein said liquid tank portion, the evaporator portion, the steam storage portion, and the liquid pathway are formed in a silica glass body, wherein

a material heating portion for heating a material;

a mixing portion for mixing the steam from said steam storage portion and the material so as to generate a mixed gas; and

a passageway which passes said mixed gas outside are formed, and

a heater unit for heating said evaporator portion and the material heating portion is provided on a side of said silica glass body.

11. The mixer as claimed in claim 10, wherein the liquid tank for storing water as said liquid and the steam storage portion which is communicated with said evaporator portion and stores the steam generated by said evaporator portion are provided; and

the steam from said steam storage portion and the material are mixed in said mixing portion so as to generate the mixed gas.

12. The mixer as claimed in claim 10, wherein the steam storage portion which is communicated with said evaporator portion and stores the steam generated by said evaporator portion, a steam supply passage extending from said steam storage portion to the mixing portion, and a steam supply passage extending from said steam storage portion to the material heating portion are provided; and

the steam is supplied to said material heating portion, and the steam from said steam storage portion and the material are mixed in said mixing portion, so as to generate the mixed gas.

13. The mixer as claimed in claim 12, wherein a porous body is disposed within the steam supply passage extending from said steam storage portion to the material heating portion.

14. The mixer as claimed in claim 10, wherein a material container portion for containing the material is provided within said silica glass body, and the material heating portion for heating the material is provided at the lower part of said material container portion.

15. The mixer as claimed in claim 11, wherein at an interconnection between the steam supply passage extending from said steam storage portion to the mixing portion and the material supply passage extending from said material heating

portion to the mixing portion, said steam supply passage is connected to the material supply passage at an angle of 0 to 45 degrees therebetween.

16. The mixer as claimed in claim 15, wherein the interconnection between the steam supply passage extending from said steam storage portion to the mixing portion and the material supply passage extending from said material heating portion to the mixing portion is formed into a double tube structure in which said steam supply passage covers a periphery of the material supply passage.

17. The mixer as claimed in claim 10, wherein said heater unit is a heater in which the carbon wire heater body is enclosed in the silica glass plate,

the liquid tank portion, the evaporator portion, the steam storage portion, the material heating portion, the mixing portion, and the passageway are formed as the recess at the silica glass body,

the opening side of said recess is covered by welding the silica glass plate of said heater unit to said silica glass body, whereby, a water tank portion, the evaporator portion, the steam storage portion, the material container portion, the material heating portion, the mixing portion, and the passageway are formed.

18. The mixer as claimed in Claim 17, wherein the carbon wire heater body of said heater unit is arranged to be located at sides of at least said evaporator portion, the steam storage portion, and the material heating portion.

19. The mixer as claimed in any one of claims 10 to 18, wherein the silica glass body at which at least said liquid tank portion, the evaporator portion, the material heating portion, the mixing portion, and the passageway are formed and the heater unit provided at a side of said silica glass body are surrounded by a thermal insulation material and accommodated in a metal casing.

20. The mixer as claimed in claim 19, wherein said material is solid urea and said mixed gas is a gas containing ammonia which is a thermal decomposition gas.